

**REMARKS**

A check in the amount of \$105 is enclosed to cover the official fee for one independent claim in excess of the five independent claims previously paid for in this application.

Claims 1 - 24 are presently pending in the Application, of which claims 15, 16 and 19 - 24 are withdrawn from present consideration in accordance with the previous restriction requirement.

The Examiner states that claims 3, 5, 11-14 and 17 -18 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims, for which the Applicant respectfully thanks the Examiner. In accordance with this indication, claims 3, 5, 11-14 and 17-18 are appropriately revised with claims 3, 5, 11, 12 and 17 now being in independent form, and thereby now believed to be allowable. The remaining claims of this groups are directly or indirectly dependent from one of the independent claims of the group and are now likewise believed to be allowable as well.

The Applicant therefore respectfully requests that the Examiner now find claims 3, 5, 11-14 and 17 -18 to be in allowable form, and the allowance of claims 3, 5, 11-14 and 17 -18 .

The Examiner has rejected claim 9 under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons noted in the official action. The rejected claim is accordingly amended, by the above claim amendments, and the presently pending claims are now believed to particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised § 112, second paragraph, rejections. The entered claim amendments are directed solely at overcoming the raised indefiniteness rejection(s) and are not directed at distinguishing the present invention from the art of record in this case. It will also be noted that the amendments to claim 9 are fully supported by the specification and claims as originally filed and that these amendments do not add any new matter to or alter the subject matter or scope of the invention, the specification or the claims.

Claims 1 - 2 and 6 - 8 are rejected, under 35 U.S.C. § 102(b), over Corman '048, claim 4 is rejected, under 35 U.S.C. § 102(e), over Altman '211, and claims 9 and 10 are rejected, under 35 U.S.C. § 103(a), over Corman '048 in view of Heard et al. '504. The Applicant acknowledges and respectfully traverses the raised rejections in view of the following remarks.

It must first be noted that claims 2, 4, 6 - 8, 9 and 10 are all dependent from and thereby incorporate all recitations and limitations of claim 1, so that claims 1 and 2, 4, 6 - 8, 9 and 10 are believed to be allowable if claim 1 is patentably distinguished over and from Corman '048,

Altman '211 and Heard et al. '504 and/or any permissible combination(s) thereof under the requirements and provisions of 35 U.S.C. 102 and 35 U.S.C. 103.

After review of claim 1 and the Examiner's remarks concerning claim 1 and the cited prior art references, it is the Applicant's belief and position that claim 1 and thus claims 2, 4, 6 - 8, 9 and 10 are all patentably distinguished over and from the applied prior art for the following reasons. Nevertheless, the Applicant elects to amend claim 1 to emphasize and clarify further these distinctions over the cited prior art and it will be noted that these amendments to claim 1 include the elimination of the phrase "adapted to" with respect to the recited T-slot and bolt-type fastener and a more detailed recitation of the specific structure of the T-slot structure and thereby the structural relationship between the recited chord and the recited forming strips.

First considering the amendment to claim 1 to eliminate the phrase "adapted to", the Applicant notes that the Examiner states that the use of the term "adapted to" in claim 1 effectively eliminates the limitations referred to by this phrase because the phrase is, in the Examiner's view, non-limiting and permissive of alternatives. The Applicant respectfully disagrees with the Examiner with respect to the limitation in question because, even if the phrase "adapted to" in "adapted to accept a bolt type fastener" somehow allows other than bolt type fasteners, which the Applicant strongly disagrees since the recitation explicitly requires bolt-type fasteners, the following recitation states effectively the same limitation is expressed without any form of qualification.

That is, the recitation "each T-slot structure having an interior T-slot adapted to accept a bolt type fastener" is immediately followed by the recitation "each T-slot including a shaft slot extending inwards from an outer surface of the T-slot structure and connecting with a cross slot extending at a right angle to the shaft slot at an inner end of shaft slot", which unequivocally and without question limits the structure to accepting a bolt-type fastener having a shaft fitting through the shaft slot and a head wider than the shaft and fitting into the cross slot.

It is therefore the Applicant's position that the recitations of claim 1 pertaining to the bolt-type fastener and the T-slot are in fact limiting to a specific type of fastener and that the term "adapted to" does not eliminate this limitation but instead merely states that the T-slot is shaped to accept a certain type of fastener that is specified in the claim. This is, in fact, the intended meaning of this recitation and is, in fact, the direct and obvious reading of this limitation when read separately from the Examiner's out of context interpretation of the statement.

However, the Applicant elects to eliminate the statement "adapted to accept a bolt type fastener" from claim 1 since the same limitation is already effectively and functionally present in claim 1 as originally filed in the recitation of "an interior T-slot including a shaft slot extending

inwards from an outer surface of the T-slot structure and connecting with a cross slot extending at a right angle to the shaft slot at an inner end of shaft slot", which expressly and unambiguously limits the type of fastener that can be used in the recited T-slot.

It will be noted in this regard and with respect to the cited prior art that the recitation of the specific shape of the T-slot expressly limits the type of fastener that can be and is used in the present invention to being a bolt-type fastener having a shaft fitting through the shaft slot and a head wider than the shaft and fitting into the cross slot. It will also be noted that this limitation thereby expressly eliminates the teachings of at least the Corman '048 reference from consideration under the requirements and provisions of either, or both, 35 U.S.C. 102 and/or 103 since the Corman '048 reference expressly teaches, and in fact requires, the use of a fundamentally different type of fastener in a fundamentally different mating arrangement, that specific type of fastener and mating structure is, in fact, the core of the Corman '048 teachings.

Therefore considering the present invention as recited in claim 1 as amended herein above with respect to the cited prior art, and beginning with Corman '048, claim 1 states that the present invention is directed to a system including a plurality of types of modular structural components for construction of structures wherein each structural component includes at least one of a plurality of structural elements that, in turn, include chords and forming strips.

As recited in claim 1, each chord includes a generally elongated main body having a generally square cross section defined by four main walls surrounding a central bore and having four interior main surfaces and four exterior main surfaces. Each chord further includes a T-slot structure extending along and centered on each exterior main surface wherein each T-slot structure has an interior T-slot that includes a shaft slot extending inwards from an outer surface of the T-slot structure and connecting with a cross slot extending at a right angle to the shaft slot at an inner end of shaft slot. Each T-slot structure is defined and formed by two parallel slot side walls that extend outwardly in parallel from the exterior main surface of the chord and by two slot face walls that extend inwardly from the outer edges of the slot side walls and parallel to the exterior main surface of the chord.

Each forming strip, in turn, includes a single generally elongated strip plate formed into a plurality of strip segments wherein each strip segment is oriented at a right angle with respect to an adjacent strip segment and wherein the strip segments are formed into regions. As recited in claim 1, the regions of the strip segments include, in succession, a corner region forming a w-shaped cross section forming bearing surfaces mating with corresponding chord bearing surfaces formed by two adjacent main walls and an adjacent slot side wall of a T-slot structure, a face region forming a bearing surface mating with chord bearing surfaces formed

by outer face surfaces of the T-slot structure face walls, and an attachment region extending outwards from an edge of the face region for stiffening of the forming strip.

First considering the recited structures of the chords, the T-slot structures and the T-slots and bolt-type fasteners with respect to Corman '048, it will be noted that, as discussed above, these chord structures as recited in claim 1 will accept only bolt-type fasteners having a shaft fitting through the shaft slot and a head wider than the shaft and fitting into the cross slot. As also discussed above, this limitation alone expressly eliminates the teachings of at least the Corman '048 reference from consideration under the requirements and provisions of either/both 35 U.S.C. 102 and/or 35 U.S.C. 103 since the Corman '048 reference expressly teaches and in fact requires the use of a fundamentally different type of fastener in a fundamentally different mating arrangement and that specific type of fastener and mating structure is core of the Corman '048 teachings.

More specifically, Corman '048 specifically requires a support post structure wherein each face has a pair of sidewise extending elements 50, 51 that have threaded slots for receiving the threaded shafts of bolts or screws and an outwardly facing face that has a recess 13 having a third threaded slot 20 for receiving the threaded shaft of a bolt or screw, and this arrangement is in fact the core of the Corman '048 teachings.

It is therefore apparent that there are a number of fundamental distinctions between the present invention as recited in claim 1 and the teachings of Corman '048 in this respect alone. For example, in the present invention the T-slot structures by which other elements, that is and in particular, the forming strips, are fastened to the chords, each include an interior T-slot that includes a shaft slot extending inwards from an outer surface of the T-slot structure and connecting with a cross slot extending at a right angle to the shaft slot at an inner end of shaft slot. Each T-slot structure is further defined and formed by two parallel slot side walls that extend outwardly in parallel from the exterior main surface of the chord and by two slot face walls that extend inwardly from the outer edges of the slot side walls and parallel to the exterior main surface of the chord.

In complete contrast from the T-slot structures of the present invention, the fastening structures extending along the faces of the Corman '048 posts do not extend outward from the faces of the posts but instead essentially consist of three recesses into each face of the posts wherein two recesses are effectively on the adjacent faces, but adjacent the edge of the face in question, and the third is in the middle of the face. In each instance, the structure for receiving a fastener in the Corman '048 structure comprises a threaded slot or recess that receives the threaded shaft of a screw or bolt, and not the head of the screw or bolt, and the

mating of the threads of the recesses and the shafts of the screws or bolts forms the entire mating surface between the post and the element that is attached by a screw or bolt. In this regard, it must be noted that the engagement between the threads of the screws or bolts and the threaded slots involves only a small part of the circumference of the threads of the screw or bolt, so that the connection is actually very weak and completely unsuitable for any significant structural purpose.

In contrast, in the present invention the T-slots of the T-slot structures comprise a shaft slot extending inwards from an outer surface of the T-slot structure and connecting with a cross slot extending at a right angle to the shaft slot at an inner end of shaft slot so that each T-slot captures and engages with the head of a bolt and not, as in Corman `048, the shaft of a bolt. In addition, the engagement between a bolt-type fastener and a T-slot in the present invention is between the lower surfaces of the head of the bolt, that is, the surfaces of the bolt head toward the shaft, and the inner surfaces of the two slot face walls of the T-slot structure that extend inwardly from the outer edges of the slot side walls.

The T-slot structures and the T-slots and bolt-type fasteners of the present invention are thereby entirely and fundamentally different in every structural and functional respect from the teachings of Corman `048 under the requirements and provisions of both 35 U.S.C. 102 and/or 103. In addition, it must be noted that it would not be obvious or reasonable to modify the structures described by Corman `048 to be more similar to those of the present invention, such as by combining the teachings of Heard et al. `504 or Altman `211 with Corman `048, because the structures taught by Corman `048 are the entire essence of the teachings of Corman `048 and to do so would be to essentially discard all of the teachings of Corman `048.

In further fundamental distinction between the present invention as recited in claim 1 and the teachings of Corman `048, and although the Examiner effectively focuses exclusively on the T-slot structures of the present invention when considering the prior art, it must be noted that the present invention as recited in claim 1 comprises more than the T-slot structure of the chords. For example, the present invention as recited in claim 1 includes, not only the chords with their T-slot structures but the forming strips and the structural relationship between the chords and the forming strips.

As discussed in the specification of the present Application, the chord and forming strip structures recited in claim 1 so that when a forming strip is secured to a chord by means of a bolt-type fastener, such as a T-bolt or hex-bolt, the bolt-type fastener prevents movement of the forming strip relative to the chord along the axis of the bolt-type fastener. The mating bearing surfaces of the chord formed by the outer faces of the chord and its T-slot structures

then bear against and interlock with the corresponding bearing surfaces of the strip segments of the forming strip to prevent movement of the forming strip relative to the chord along the other possible axes of movement or rotation, thus strongly securing the forming strip to the chord. As described in the specification and as recited in others of the claims, a forming strip can and typically will be a structural element of a structural component that is to be attached to a chord, which may be an independent structural component or a part of another structural component, to provide a very strong, readily assembled structure comprising elements that may be assembled in an exceptionally wide variety of arrangements. For example, in the system of the present invention a first structural component that includes a forming strip may be secured to a second structural component that includes chord at any point along the length of the chord, which is impossible in, for example, the structural components taught by Corman '048, Heard et al. '504 and Altmann '211 because, in those structural systems, either the components can either be attached to one another only at the ends of the components or must at least be initially engaged at their respect ends and slide along the components to the desired locations, both of which severely limit the adaptability of the structures and place unwanted restrictions on how the components can be assembled.

It is therefore apparent that the forming strips and the structural relationship between the chords and forming strips comprise further fundamental elements of the present invention as recited in claim 1, and a fundamental difference and distinction between the present invention and the teachings of the prior art references. For example, and again referring to Corman '048, it is very clear that Corman '048 does not show, teach or suggest any form of forming strip having a single generally elongated strip plate formed into a plurality of strip segments wherein each strip segment is oriented at a right angle with respect to an adjacent strip segment and wherein the strip segments are formed into regions. As recited in claim 1, the regions of the strip segments include, in succession, a corner region forming a w-shaped cross section forming bearing surfaces mating with corresponding chord bearing surfaces formed by two adjacent main walls and an adjacent slot side wall of a T-slot structure, a face region forming a bearing surface mating with chord bearing surfaces formed by outer face surfaces of the T-slot structure face walls, and an attachment region extending outwards from an edge of the face region for stiffening of the forming strip.

The present invention as recited in claim 1 is fully and patentably distinguished over and from Corman '048 under the requirements and provisions of both 35 U.S.C. 102 and 35 U.S.C. 103 for this reason alone, as well as for the reasons discussed above.

Next considering the teachings of Heard et al. '504 with regard to the chords, T-slot structures and T-slots and bolt-type fasteners of the present invention, the Applicant notes that the Examiner refers to Fig. 20 of Heard et al. '504 and the associated text of the specification with regard to the use of bolt-type fasteners and mating structures formed to accept and capture the heads of bolts. The Applicant concurs that Heard et al. '504 does show in Fig. 20 a structure having a T-slot opening for receiving and capturing the head of a bolt, but has no teachings or suggestions of any form of chord structure having a plurality of such structures.

The sole potential applicability of the teachings of Heard et al. '504 are thereby the combination of the teachings of a T-slot structure as shown in Heard et al. '504 with the pole structure as taught by Corman '048, which conclusion is supported by the Examiner's remarks and stated grounds for rejection. As discussed above, however, it would not be obvious or reasonable to modify the structures described by Corman '048 to be more similar to those of the present invention by combining the teachings of Heard et al. '504 with Corman '048 because the structures taught by Corman '048 are the entire essence of the teachings of Corman '048 and to do so would be to essentially discard all of the teachings of Corman '048. It must also be noted that such a combination would be directly contrary to the teachings of Corman '048 and Heard et al. '504 because the teachings of Corman '048 and Heard et al. '504 are directed to diametrically opposite structures.

It must also be noted that even if the teachings of Heard et al. '504 were to be combined with those of Corman '048 in the manner suggested by the Examiner--although such combination is not supported or suggested by any teaching or suggestion in either Heard et al. '504 or Corman '048--the result would still not result in the recitations of claim 1. For example, and as discussed further below, neither Corman '048 nor Heard et al. '504 teaches, shows or suggests any structure or structural relationship that is similar or analogous in any way to the forming strips and the structural relationship between the chords and forming strips as recited in claim 1.

In addition, it is very clear that like Corman '048, Heard et al. '504 does not show, teach or suggest any form of forming strip having a single generally elongated strip plate formed into a plurality of strip segments wherein each strip segment is oriented at a right angle with respect to an adjacent strip segment and wherein the strip segments are formed into regions. As recited in claim 1, the regions of the strip segments include, in succession, a corner region forming a w-shaped cross section forming bearing surfaces mating with corresponding chord bearing surfaces formed by two adjacent main walls and an adjacent slot side wall of a T-slot structure, a face region forming a bearing surface mating with chord bearing surfaces formed

by outer face surfaces of the T-slot structure face walls, and an attachment region extending outwards from an edge of the face region for stiffening of the forming strip.

The present invention as recited in claim 1 is fully and patentably distinguished over and from Heard et al. '504, as well as Corman '048, under the requirements and provisions of both 35 U.S.C. 102 and 35 U.S.C. 103 for this reason alone, as well as for the reasons discussed above.

Lastly, now considering Altman '211 with respect to the chords, the T-slot structures and the T-slots and bolt-type fasteners as recited in claim 1, Altman '211 describes a rectangular tubular structure having four faces and a slot in each face through which the shaft of a bolt may pass to capture the head of the bolt in the space within the tubular structure, so that Altman '211 like Heard et al. '504 does teach a fastening arrangement wherein the head of a bolt is captured withing the structure.

Altman '211, however, like Heard et al. '504 does not teach or suggest the chord and T-slot structure of the present invention as recited in claim 1 wherein each T-slot structure has an interior T-slot that includes a shaft slot extending inwards from an outer surface of the T-slot structure and connecting with a cross slot extending at a right angle to the shaft slot at an inner end of shaft slot. Likewise, Altmann '211, again like Heard et al. 504, does not teach or suggest that each T-slot structure is defined and formed by two parallel slot side walls that extend outwardly in parallel from the exterior main surface of the chord and by two slot face walls that extend inwardly from the outer edges of the slot side walls and parallel to the exterior main surface fo the chord.

In addition, it is very clear that like Corman '048 and Heard et al. '504, Altmann '211 does not show, teach or suggest any form of forming strip having a single generally elongated strip plate formed into a plurality of strip segments wherein each strip segment is oriented at a right angle with respect to an adjacent strip segment and wherein the strip segments are formed into regions. As recited in claim 1, the regions of the strip segments include, in succession, a corner region forming a w-shaped cross section forming bearing surfaces mating with corresponding chord bearing surfaces formed by two adjacent main walls and an adjacent slot side wall of a T-slot structure, a face region forming a bearing surface mating with chord bearing surfaces formed by outer face surfaces of the T-slot structure face walls, and an attachment region extending outwards from an edge of the face region for stiffening of the forming strip.

The present invention as recited in claim 1 is fully and patentably distinguished over and from Altmann '211, as well as Heard et al. '504 and Corman '048, under the requirements and



provisions of both 35 U.S.C. 102 and 35 U.S.C. 103 for this reason alone, as well as for the reasons discussed above.

It is therefore the Applicant's belief and position that the present invention as recited in claim 1 as amended herein above is fully and patentably distinguished over and from the teachings and suggestions of Corman '048, Heard et al. '504 and Altmann '211 under the requirements and provisions of 35 U.S.C. 102 and 35 U.S.C. 103, whether taken individually or in any combination, for the reasons discussed above. It is further the Applicant's belief and position that the present invention as recited in claims 2, 4, 6 - 8, 9 and 10, which are dependent from claim 1 and thereby incorporate all recitations and limitations of claim 1, are also fully and patentably distinguished over and from the teachings and suggestions of Corman '048, Heard et al. '504 and Altmann '211. The Applicant therefore respectfully requests that the Examiner reconsider and withdraw all rejections of the claims, under either or both of 35 U.S.C. 102 and 35 U.S.C. 103, in view of Corman '048, Heard et al. '504 and Altmann '211, taken individually and in combination, and allow claims 1, 2, 4, 6 - 8, 9 and 10 as presented herein above.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Corman '048, Heard et al. '504 and/or Altmann '211 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

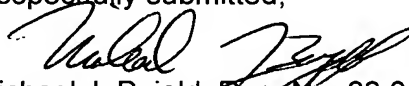
In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

10/776,565

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Michael J. Bujold, Reg. No. 32,018

**Customer No. 020210**

Davis Bujold & Daniels, P.L.L.C.

112 Pleasant Street

Concord, NH 03301-2931

Telephone 603-226-7490

Facsimile 603-226-7499

E-mail: [patent@davisandbujold.com](mailto:patent@davisandbujold.com)